(FILE 'HOME' ENTERED AT 16:14 ON 15 MAY 2002)

FILE 'MEDLINE, USPATFULL, CAPLUS' ENTERED AT 16:14:50 ON 15 MAY 2002

L1 13818 S APO(W)2 OR TRAIL
L2 13676 S APO-2 LIGAND OR TRAIL
L3 413 S L2 AND ZINC
L4 154 S L2 AND COBALT
L5 57 S L3 AND L4
L6 57 DUP REM L5 (0 DUPLICATES REMOVED)
L7 48 S L2 AND TRIMER
L8 26 S L7 AND (ZN OR ZINC)

L6 ANSWER 13 OF 57 CAPLUS COPYRIGHT 2002 ACS
AN 2001:12626 CAPLUS
DN 134:91089
TI Improved fermentative yield, chromatographic recovery, and stability of **Apo-2 ligand** using divalent metal ions
IN Ashkenazi, Avi J.; Hymowitz, Sarah; Kelley, Robert F.; Koumenis, Iphegeni; Leung, Susan; O'connell, Mark; Pai, Roger; Shahrokh, Zahra; Simmons, Laura
PA Genentech, Inc., USA
SO PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2001000832	A1	20010104	WO 2000-US17579	20000626
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1194555	A1	20020410	EP 2000-950255	20000626
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRAI US 1999-141342P P 19990628
WO 2000-US17579 W 20000626

AB Methods of making **Apo-2 ligand** (Apo-2L, also known as **TRAIL** or tumor-necrosis factor-related apoptosis-inducing ligand) and formulations of Apo-2L using divalent metal ions are provided. Such divalent metal ions include **zinc** and **cobalt** which improve Apo-2L trimer formation and stability. The crystal structure of Apo-2L is also provided, along with **Apo-2 ligand** variant polypeptides with improved stability, identified using oligonucleotide-directed mutagenesis. Replicable plasmid vectors are described for cloning and expression of Apo-2L and its variants in host Escherichia coli.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

(FILE 'HOME' ENTERED AT 13:36 ON 13 MAY 2002)

FILE 'MEDLINE, USPATFULL, CAPLUS' ENTERED AT 13:37:15 ON 13 MAY 2002

```
L1         81002 S TNF
L2         25935 S TRIMER
L3           381 S L1 AND L2
L4           223 S L1(P)L2
L5             3 S L4 AND ZN?
L6            15 S L4 AND DIVALENT
L7            11 S L4 AND ZINC
L8            94 S FAS AND TRIMER
L9            15 S L8 AND (ZINC OR ZN++ OR ZN)
L10           15 S L8 AND (ZINC OR ZN)
L11           15 DUP REM L10 (0 DUPLICATES REMOVED)

=>
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L5 ANSWER 1 OF 3 USPATFULL
AN 2002:22131 USPATFULL
TI 18 Human secreted proteins
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002012966 A1 20020131
AI US 2001-768826 A1 20010125 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US22350, filed on 15 Aug 2000, UNKNOWN
PRAI US 1999-148759P 19990816 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 18157
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.
SUMM . . . surfaces and antibody-antigen complexes in the classical pathway of complement. The structure reveals a homology to the tumor necrosis factor (**TNF**) family. Identical folding topologies, key residue conservations, and similarity of **trimer** interfaces and intron positions firmly establish an evolutionary link between the **TNF** and Cl q families. It has been suggested that TNFs, which control many aspects of inflammation, adaptive immunity, apoptosis and. . .
DETD . . . MgSO.sub.4; 6995.50 mg/L of NaCl; 2400.0 mg/L of NaHCO.sub.3; 62.50 mg/L of NaH.sub.2PO.sub.4-H.sub.2O; 71.02 mg/L of Na.sub.2HPO4; 0.4320 mg/L of **ZnSO**.sub.4-7H.sub.2O; 0.002 mg/L of Arachidonic Acid; 1.022 mg/L of Cholesterol; .070 mg/L of DL-alpha-Tocopherol-Acetate; 0.0520 mg/L of Linoleic Acid; 0.010 mg/L. . .

=> d L7 1- bib ab
YOU HAVE REQUESTED DATA FROM 11 ANSWERS - CONTINUE? Y/(N):y

L7 ANSWER 1 OF 11 MEDLINE
AN 2000117366 MEDLINE
DN 20117366 PubMed ID: 10651627
TI A unique **zinc**-binding site revealed by a high-resolution X-ray structure of homotrimeric Apo2L/TRAIL.
AU Hymowitz S G; O'Connell M P; Ultsch M H; Hurst A; Totpal K; Ashkenazi A; de Vos A M; Kelley R F
CS Department of Protein Engineering, Genentech, Inc., 1 DNA Way, South San Francisco, California 94080, USA.
SO BIOCHEMISTRY, (2000 Feb 1) 39 (4) 633-40.
Journal code: A0G; 0370623. ISSN: 0006-2960.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 200002
ED Entered STN: 20000309
Last Updated on STN: 20000309
Entered Medline: 20000223
AB Apoptosis-inducing ligand 2 (Apo2L, also called TRAIL), a member of the tumor necrosis factor (**TNF**) family, induces apoptosis in a variety of human tumor cell lines but not in normal cells [Wiley, S. R., Schooley, K., Smolak, P. J., Din, W. S., Huang, C.-P., Nicholl, J. K., Sutherland, G. R., Smith, T. D., Rauch, C., Smith, C. A., and Goodwin, R. G. (1995) Immunity 3, 673-682; Pitti, R. M., Marsters, S. A., Ruppert, S., Donahue, C. J., Moore, A., and Ashkenazi, A. (1996) J. Biol. Chem. 271, 12687-12690]. Here we describe the structure of Apo2L at 1.3 A resolution and use alanine-scanning mutagenesis to map the receptor contact regions. The structure reveals a homotrimeric protein that resembles **TNF** with receptor-binding epitopes at the interface between monomers. A **zinc** ion is buried at the **trimer** interface, coordinated by the single cysteine residue of each monomer. The **zinc** ion is required for maintaining the native structure and stability and, hence, the biological activity of Apo2L. This is the first example of metal-dependent oligomerization and function of a cytokine.

L7 ANSWER 2 OF 11 USPATFULL
AN 2002:84905 USPATFULL
TI Novel Fas antigen derivative
IN Nakamura, Norio, Tokyo, JAPAN
Nagata, Shigekazu, Osaka-fu, JAPAN
PA Mochida Pharmaceutical Co., Ltd. (non-U.S. corporation)
PI US 2002044944 A1 20020418
AI US 2001-949713 A1 20010912 (9)
RLI Division of Ser. No. US 1998-180100, filed on 2 Nov 1998, GRANTED, Pat. No. US 6306395 A 371 of International Ser. No. WO 1997-JP1502, filed on 1 May 1997, UNKNOWN
PRAI JP 1996-135760 19960502
DT Utility
FS APPLICATION
LREP BIRCH STEWART KOLASCH & BIRCH, PO BOX 747, FALLS CHURCH, VA, 22040-0747
CLMN Number of Claims: 18
ECL Exemplary Claim: 1
DRWN 28 Drawing Page(s)
LN.CNT 2427
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention provides a novel Fas antigen derivative which comprises at least a part or entire portion of Fas antigen extracellular region polypeptide in which at least one amino acid residue is deleted from a group of amino acid residues starting from the N-terminal amino acid residue of the Fas antigen polypeptide to a cysteine residue most close to the N-terminal side (excluding said cysteine residue), as well as a DNA fragment which encodes said Fas antigen derivative, a recombinant DNA molecule which contains said DNA sequence, a transformant in which said recombinant DNA molecule is introduced, a method for the production

of said Fas antigen derivative, a medicament which contains said novel Fas antigen derivative as the active ingredient and a method for the improvement of activities and functions of Fas antigen and the like.

L7 ANSWER 3 OF 11 USPATFULL
AN 2002:22131 USPATFULL
TI 18 Human secreted proteins
IN Shi, Yanggu, Gaithersburg, MD, UNITED STATES
Young, Paul E., Gaithersburg, MD, UNITED STATES
Ebner, Reinhard, Gaithersburg, MD, UNITED STATES
Soppet, Daniel R., Centreville, VA, UNITED STATES
Ruben, Steven M., Olney, MD, UNITED STATES
PI US 2002012966 A1 20020131
AI US 2001-768826 A1 20010125 (9)
RLI Continuation-in-part of Ser. No. WO 2000-US22350, filed on 15 Aug 2000, UNKNOWN
PRAI US 1999-148759P 19990816 (60)
DT Utility
FS APPLICATION
LREP HUMAN GENOME SCIENCES INC, 9410 KEY WEST AVENUE, ROCKVILLE, MD, 20850
CLMN Number of Claims: 23
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 18157
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

L7 ANSWER 4 OF 11 USPATFULL
AN 2002:16900 USPATFULL
TI Design and discovery of protein based TNF-alpha variants for the treatment of TNF-alpha related disorders
IN Dahiyat, Bassil I., Los Angeles, CA, UNITED STATES
Filikov, Anton, Monrovia, CA, UNITED STATES
PI US 2002009780 A1 20020124
AI US 2001-798789 A1 20010302 (9)
PRAI US 2000-186427P 20000302 (60)
DT Utility
FS APPLICATION
LREP FLEHR HOHBACH TEST ALBRITTON & HERBERT LLP, Four Embarcadero Center, Suite 3400, San Francisco, CA, 94111
CLMN Number of Claims: 13
ECL Exemplary Claim: 1
DRWN 21 Drawing Page(s)
LN.CNT 3189
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention relates to novel proteins with TNF-.alpha. antagonist activity and nucleic acids encoding these proteins. The invention further relates to the use of the novel proteins in the treatment of TNF-.alpha. related disorders, such as rheumatoid arthritis.

L7 ANSWER 5 OF 11 USPATFULL
AN 2001:184842 USPATFULL
TI Fas antigen derivatives
IN Nakamura, Norio, Tokyo, Japan
Nagata, Shigekazu, Osaka-fu, Japan
PA Mochida Pharmaceutical Co., Ltd., Tokyo, Japan (non-U.S. corporation)
Osaka Bioscience Institute, Osaka, Japan (non-U.S. corporation)
PI US 6306395 B1 20011023
WO 9742319 19971113
AI US 1998-180100 19981102 (9)
WO 1997-JP1502 19970501
19981102 PCT 371 date
19981102 PCT 102(e) date

PRAI JP 1996-135760 19960
DT Utility
FS GRANTED
EXNAM Primary Examiner: Huff, Sheela; Assistant Examiner: Harris, Alana M.
LREP Birch, Stewart, Kolasch & Birch, LLP
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 15 Drawing Figure(s); 28 Drawing Page(s)
LN.CNT 2004
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB This invention provides a novel Fas antigen derivative which comprises at least a part or entire portion of Fas antigen extracellular region polypeptide in which at least one amino acid residue is deleted from a group of amino acid residues starting from the N-terminal amino acid residue of the Fas antigen polypeptide to a cysteine residue most close to the N-terminal side (excluding said cysteine residue), as well as a DNA fragment which encodes Fas antigen derivative, a recombinant DNA molecule which contains DNA sequence, a transformant in which recombinant DNA molecule is introduced, a method for the production of Fas antigen derivative, a medicament which contains novel Fas antigen derivative as the active ingredient and a method for the improvement of activities and functions of Fas antigen and the like.

L7 ANSWER 6 OF 11 USPATFULL
AN 2001:44200 USPATFULL
TI Member of the TNF family useful for treatment and diagnosis of disease
IN Wiley, Steven R., Libertyville, IL, United States
PA Abbott Laboratories, Abbott Park, IL, United States (U.S. corporation)
PI US 6207642 B1 20010327
AI US 1998-105343 19980626 (9)
RLI Continuation-in-part of Ser. No. US 1998-21706, filed on 10 Feb 1998, now abandoned Continuation-in-part of Ser. No. US 1997-798692, filed on 12 Feb 1997, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Romeo, David
LREP Becker, Cheryl L., Goller, Mimi C.
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 9 Drawing Page(s)
LN.CNT 4355
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB An isolated clone consisting of sequences transcribed from the TREPA gene. Also provided are human polypeptides translated from said TREPA sequences and a procedure for producing such polypeptide by recombinant techniques. Also provided are a procedure for producing soluble biologically active TREPA, which may be used to treat deficiencies of TREPA and diseases conditions ameliorated by TREPA. Antibodies, antagonists and inhibitors of such polypeptide which may be used to prevent the action of such polypeptide and therefore may be used therapeutically to treat TREPA-associated diseases, tumors or metastastases are disclosed. Also disclosed is the use of said antibodies, agonists and inhibitors as well as the nucleic acid sequences to screen for, diagnose, prognosticate, stage and monitor conditions and diseases attributable to TREPA, especially inflammation. The use of said partial sequence to provide antibodies, agonists and inhibitors as well as partial nucleic acid sequences to screen for, diagnose, stage and monitor diseases associated with TREPA, including but not limited to inflammation. Illustrative sequences and clone designations for TREPA are provided.

L7 ANSWER 7 OF 11 USPATFULL
AN 1998:69173 USPATFULL
TI Antigen-binding fusion proteins
IN Whitlow, Marc, El Sabrante, CA, United States
Filpula, David, Piscataway, NJ, United States
Shorr, Robert, Edison, NJ, United States
PA Enzon Inc., Piscataway, NJ, United States (U.S. corporation)
PI US 5767260 19980616

AI US 1995-515903 19950816 (8)
RLI Division of Ser. No. US 1994-323445, filed on 13 Oct 1994
DT Utility
FS Granted
EXNAM Primary Examiner: Eisenschenk, Frank C.
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN 22 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 1482
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions of, genetic constructions coding for, and methods for producing single-chain and multivalent immunoeffector antigen-binding fusion proteins are provided by the invention. Antigen-binding fusion proteins having phospholipase A activating protein and/or tumor necrosis factor fragments are also provided by the invention. Genetic sequences coding for single-chain and multivalent immunoeffector antigen-binding fusion proteins are disclosed.

L7 ANSWER 8 OF 11 USPATFULL
AN 1998:65510 USPATFULL
TI Antigen-binding fusion proteins
IN Whitlow, Marc, El Sabrante, CA, United States
Filpula, David, Piscataway, NJ, United States
Shorr, Robert, Edison, NJ, United States
PA Enzon, Inc., Piscataway, NJ, United States (U.S. corporation)
PI US 5763733 19980609
AI US 1994-323445 19941013 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Eisenschenk, Frank C.
LREP Sterne, Kessler, Goldstein & Fox P.L.L.C.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN 22 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 1588
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions of, genetic constructions coding for, and methods for producing single-chain and multivalent immunoeffector antigen-binding fusion proteins are provided by the invention. Antigen-binding fusion proteins having phospholipase A activating protein and/or tumor necrosis factor fragments are also provided by the invention. Genetic sequences coding for single-chain and multivalent immunoeffector antigen-binding fusion proteins are disclosed.

L7 ANSWER 9 OF 11 USPATFULL
AN 95:114839 USPATFULL
TI Multimers of the soluble forms of TNF receptors, their preparation and pharmaceutical compositions containing them
IN Wallach, David, Rehovot, Israel
Brakebusch, Cord, Braunschweig, Germany, Federal Republic of
PA Yeda Research and Development Co. Ltd., Rehovot, Israel (non-U.S. corporation)
PI US 5478925 19951226
AI US 1992-925687 19920807 (7)
PRAI IL 1991-99120 19910807
DT Utility
FS Granted
EXNAM Primary Examiner: Walsh, Stephen G.; Assistant Examiner: Carlson, K. Cochrane
LREP Browdy and Neimark
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 8 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 769
AB Multimers of the soluble forms of the tumor necrosis factor receptors (TNF-Rs) are provided. These multimers are produced either by chemical or by recombinant methods. The multimers of the soluble forms of TNF-Rs are useful for protecting mammals (including humans) from the deleterious effects of TNF.

L7 ANSWER 10 OF 11 USPATFULL
AN 94:15876 USPATFULL
TI Human tumor necrosis factor polypeptides
IN Yamada, Masaaki, Kyoto, Japan
Furutani, Yasuji, Toyonaka, Japan
Notake, Mitsue, Suita, Japan
Yamagishi, Juniti, Toyonaka, Japan
PA Dainippon Pharmaceutical Co., Ltd., Osaka, Japan (non-U.S. corporation)
PI US 5288852 19940222
AI US 1993-84445 19930701 (8)
RLI Continuation of Ser. No. US 1987-89134, filed on 25 Aug 1987, now abandoned which is a division of Ser. No. US 1985-708846, filed on 5 Mar 1985, now abandoned
PRAI JP 1984-43617 19840306
JP 1984-82653 19840423
JP 1984-172307 19840817
DT Utility
FS Granted
EXNAM Primary Examiner: Draper, Garnette D.
LREP Wenderoth, Lind & Ponack
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1998
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A novel cloned DNA encoding a human tumor necrosis factor (TNF), a vector having said DNA inserted thereinto, a host transformed with said vector and a novel human TNF polypeptide, and processes for producing them.

L7 ANSWER 11 OF 11 CAPLUS COPYRIGHT 2002 ACS
AN 2000:3469 CAPLUS
DN 132:149951
TI A unique **zinc**-binding site revealed by a high-resolution X-ray structure of homotrimeric Apo2L/TRAIL
AU Hymowitz, Sarah G.; O'Connell, Mark P.; Ultsch, Mark H.; Hurst, Amy; Totpal, Klara; Ashkenazi, Avi; De Vos, Abraham M.; Kelley, Robert F.
CS Departments of Protein Engineering Research Bioassay Bioanalytical Assay Technology and Molecular Oncology, Genentech Inc., South San Francisco, CA, 94080, USA
SO Biochemistry (2000), 39(4), 633-640
CODEN: BICHAW; ISSN: 0006-2960
PB American Chemical Society
DT Journal
LA English
AB Apoptosis-inducing ligand 2 (Apo2L, also called TRAIL), a member of the tumor necrosis factor (**TNF**) family, induces apoptosis in a variety of human tumor cell lines but not in normal cells. Here the authors describe the structure of Apo2L at 1.3 .ANG. resoln. and use alanine-scanning mutagenesis to map the receptor contact regions. The structure reveals a homotrimeric protein that resembles **TNF** with receptor-binding epitopes at the interface between monomers. A **zinc** ion is buried at the **trimer** interface, coordinated by the single cysteine residue of each monomer. The **zinc** ion is required for maintaining the native structure and stability and, hence, the biol. activity of Apo2L. This is the first example of metal-dependent oligomerization and function of a cytokine.
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

7 ANSWER 9 OF 11 USPATFULL

SUMM It is known that **TNF**, in its natural state, exists as a multimer (**trimer**) consisting of three identical polypeptide chains, each with a molecular size of about 17,000 D.

SUMM To elicit its effects, **TNF** must bind to the **TNF** Receptors in its trimeric form. Although the **TNF** monomer also binds to cells (but at a lower affinity when compared with the **TNF trimer**), it has no effect.

SUMM As stated hereinbefore, **TNF** exists and exerts its biological action as a **trimer**. However, nothing has been known so far as to the form of the **TNF**-Rs to which **TNF** binds, i.e. whether the **TNF trimer** binds to individual molecules of the **TNF**-Rs, or the receptors themselves also exist as multimers or become multimers following **TNF** binding which better accommodates the **TNF** trimers.

SUMM . . . be able to determine the optimum length of any such linker molecules to produce multimers which best bind to the **TNF trimer**. Similarly, if the multimer is produced by recombinant techniques, the DNA which encodes each monomer may be linked in the. . .

SUMM . . . may be formed by means known in the art and include inorganic salts, for example, sodium, calcium, ammonium, ferric or **zinc** salts and the like, and salts with organic bases as those formed, for example, with amines, such as triethanolamine, arginine. . .

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$C_6H_5O_7Na_3 \cdot 2H_2O$

CAS Reg. 6132-04-3

MSDS

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Free Alkali	None
Chloride	<=0.003%
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Calcium	<=0.005%
Heavy Metals (as Pb)	<=5ppm
Iron	<=0.001%

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